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Petteri Yla-Outinen

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EXAMINER

SMITH, JOSHUA Y

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/730,004	<b>Applicant(s)</b> YLA-OUTINEN ET AL.	
	<b>Examiner</b> JOSHUA SMITH	<b>Art Unit</b> 2477	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15, 17, 18, 23, 24, 26-40 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 18, 23, 24, 26-40 and 42-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

The amendment filed 01/11/2011 has been entered.

- **Claims 1-15, 17, 18, 23, 24, 26-40 and 42-44 are pending.**
- **Claims 16, 19-22, 25 and 41 are cancelled.**
- **Claims 1-15, 17, 18, 23, 24, 26-40 and 42-44 stand rejected.**

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1 and 10** are rejected under 35 U.S.C. 102(b) as being anticipated by O'Neil et al. (Patent Number: 6,128,279), hereafter referred to as O'Neil.

**As for Claim 1**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 5, lines 13-26, and in column 7, line 57 to column 8, line 37, and in FIGS. 1, 3 and 4, a Router 2 receives requests for information stored on Web site 1 (FIG. 1) from a remote location (not shown) on the Internet (routing a message in a packet data network), and Router 2 routes these requests, which typically comprise URLs, to local DNS 4 (FIG. 1), and local DNS 4 receives a URL from router 2 and resolves the domain name in the URL to a specific IP address in server cluster 6, and server cluster 6 is part of the untrusted segment 14 (FIG. 1) of Web site 1, to which access is relatively unrestricted, and server cluster 6 is comprised of a plurality of servers, including servers 7, 9 and 10

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(FIG. 1), and load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL (setting a load control information in a predetermined field of a layer three or above message, wherein the load control information is separate from addressing information for said message), for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs (or lack thereof) in the request (checking said load control information on the routing path of said message), and step S402 determines which server(s) are dedicated to processing which URIs, and which server(s) are dedicated to processing requests having no URI, and where the load processing module of each server is configured to accept requests for one or more URIs, thus limiting the server to processing requests for those URIs, for example, load balancing module 17 may be configured to accept requests with a URI of "/banking", whereas load balancing module 19 may be configured to accept requests with a URI of "/securities", and in a case step S403 (FIG. 4) decides that server 17 is dedicated to processing URIs of the type contained in the request (selecting a processing resource of said packet data network in response to the result of said checking of said load

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control information), flow proceeds to step S404 (FIG. 4), and in step S404 (FIG. 4), the request is accepted by load balancing module 17 and processed in server 7 (FIG. 3), on the other hand, in a case that step S403 decides that server 7 does not process URIs of the type contained in the request, flow proceeds to step S405 (FIG. 4), and this step routes the request to one of server 7's peers that is dedicated to processing requests containing such URIs, and once the request is received at the appropriate server, the load balancing module associated therewith accepts the request for processing by the server in step S406 (FIG. 4) (setting a load control information in a predetermined field of a layer three or above message, wherein the load control information is separate from addressing information for said message; routing said message in a packet data network; checking said load control information on the routing path of said message; and selecting a processing resource of said packet data network in response to the result of said checking of said load control information).

**As for Claim 10**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL (a virtual address) /URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either

network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs in the request (a virtual address is shared by a plurality of processor nodes).

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Chen (Pub. No.: US 2002/0161890 A1), hereafter referred to as Chen.

**As for Claim 2**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 5, lines 13-26, and in column 7, line 57 to column 8, line 37, and in FIGS. 1, 3 and 4, a Router 2 receives requests for information stored on Web site 1 (FIG. 1) from a remote location (not shown) on the Internet, and Router 2 routes these requests (a user part of

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a message), which typically comprise URLs, to local DNS 4 (FIG. 1), and local DNS 4 receives a URL from router 2 and resolves the domain name in the URL to a specific IP address in server cluster 6, and server cluster 6 is part of the untrusted segment 14 (FIG. 1) of Web site 1 (a public land network), to which access is relatively unrestricted, and server cluster 6 (an internet protocol multimedia subsystem of a public land network) is comprised of a plurality of servers, including servers 7, 9 and 10 (FIG. 1) (nodes of an internet protocol multimedia subsystem of a public land mobile network), and load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL (a predetermined field is a subfield of a user part of a message), for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs (or lack thereof) in the request, and step S402 determines which server(s) are dedicated to processing which URIs, and which server(s) are dedicated to processing requests having no URI, and where the load processing module of each server is configured to accept requests for one or more URIs, thus limiting the server to processing requests for those URIs, for example, load balancing module 17 may be configured to accept requests with a URI of

"/banking", whereas load balancing module 19 may be configured to accept requests with a URI of "/securities", and in a case step S403 (FIG. 4) decides that server 17 is dedicated to processing URIs of the type contained in the request (the load control information provides information to enable enables load balancing to substantially equalize the load among nodes of an internet protocol multimedia subsystem of a public land mobile network), flow proceeds to step S404 (FIG. 4), and in step S404 (FIG. 4), the request is accepted by load balancing module 17 and processed in server 7 (FIG. 3), on the other hand, in a case that step S403 decides that server 7 does not process URIs of the type contained in the request, flow proceeds to step S405 (FIG. 4), and this step routes the request to one of server 7's peers that is dedicated to processing requests containing such URIs, and once the request is received at the appropriate server, the load balancing module associated therewith accepts the request for processing by the server in step S406 (FIG. 4) (a predetermined field is a subfield of a user part of a message wherein the load control information provides information to enable enables load balancing to substantially equalize the load among nodes of an internet protocol multimedia subsystem of a public land mobile network).

O'Neil fails to teach a public land mobile network.

Chen teaches in paragraphs [0035] and [0090], and in FIGS. 1 and 2, communication apparatuses and electronic components in communications systems, including wireless LAN (WLAN), wide area network (WAN), Internet, public communication networks, and wireless networks, and in FIGS. 1 and 2 each web server 110 in the cluster 100 comprises a load balancer or load balancing module 120 which



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operates in conjunction with an intelligent content distributor 200 to redirect client requests for specific content away from a particular web server 110 (i.e., the server in the process of being updated or with stale data), and to operate the redirection feature (i.e., turn on or off) in real-time, the load balancer 120 is aware of the status of the content (i.e., content status awareness) residing in its respective server 110 in order to support the redirection feature, and the load balancer 120 maintains a content redirection table for those specific content in the web server 110 that needs to be redirected, that is, the content redirection table contains the URI of the content that are current inaccessible on the web server 110, and based on the URI information in the client request, the load balancer 120 consults or reads the content redirection table to determine whether this particular client request (i.e., connection request) should be accepted, and if the entry is found in the content redirection table, the load balancer 120 re-directs the connection or client request to another server 110 in the cluster 100 (a predetermined field is a subfield of a user part of a message wherein the load control information provides information to enable enables load balancing to substantially equalize the load among nodes of an internet protocol multimedia subsystem of a public land mobile network).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Chen with the invention of O'Neil since Chen provides a method which considers the status of content on specific servers, i.e., static content awareness, to intelligently distribute content over a communications network, and operates with a load balancer to intelligently distribute content to a web server

cluster (see Chen, paragraphs [0016]—[0019]), and to do so with communications involving wireless networks, which can be introduced into the system of O'Neil to allow URI-utilizing load balancing to be implemented with wireless networks and customers of wireless devices.

**Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Orton et al. (Patent No.: US 6,678,735 B1), hereafter referred to as Orton.

**As for Claim 3**, O'Neil as applied to Claim 1 teaches those limitations.

O'Neil fails to teach a via branch of a SIP message, wherein the message is a SIP message.

Orton teaches in lines 30-34, column 1, a Via header of a SIP message.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Orton with the teachings of O'Neil since Orton provides a method and apparatus that allows efficient operation of SIP by processing application non-essential information, such as routing information, in such a way that an application program is not detracted from its essential task, allowing the system elements of O'Neil to connect to SIP without their application programs being overburdened.

**Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Orton, and further in view of Morrow (Document Number: EP 1 089 515 A2), hereafter referred to as Morrow.

**As for Claim 4**, O'Neil as applied to Claim 1 teaches those limitations.

O'Neil fails to teaches copying from one predetermined filed to another.

Morrow shows in paragraph [0021], lines 27-37, and in FIG. 3A, page 10, item CSCF 2 receives an INVITE message with C2 as the destination address, and then puts the C2 address in the source address of the TRYING message (copying from one predetermined filed to another).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Orton since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Orton to allow compatibility with SIP in load management.

**Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Chen, and further in view of Orton.

**As for Claim 5**, O'Neil in view of Chen as applied to Claim 1 teach those limitations.

O'Neil fails to teach URI of a SIP Route header.

Orton teaches in lines 14-15, column 10, Route headers, and, lines 24-25 and 42-44, column 11, and in FIG. 14, Sheet 8 of 8, of SIP message containing Uniform Resource Identifier (URI).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Orton with the teachings of O'Neil in view of Chen since Orton provides a method and apparatus that allows efficient operation of SIP by processing application non-essential information, such as routing information, in such a way that an application program is not detracted from its essential task, allowing the system elements of O'Neil in view of Chen to connect to SIP without their application programs being overburdened.

**Claims 6-9, 12 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Chen, and further in view of Krause et al. (Patent Number: 5,914,953), hereafter referred to as Krause.

**As for Claim 6**, O'Neil as applied to Claim 1 teaches those limitations.

O'Neil fails to teach of a plurality of subfields in user part for conveying different types of information.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that contains four sub-fields, and where each sub-field is designed to carry a different type of information.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the teachings of O'Neil in view of Chen since Krause provides a router processing system that prevents deadlocks and provides fault

tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of O'Neil in view of Chen.

**As for Claim 7**, O'Neil in view of Chen and Krause as applied to Claim 6 teach those limitations.

O'Neil fails to teach the user part is parsed and divided into said subfields.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that is divided into four sub-fields.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the teachings of O'Neil in view of Chen since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of O'Neil in view of Chen.

**As for Claim 8**, O'Neil in view of Chen and Krause as applied to Claim 6, teach those limitations.

O'Neil fails to teach the user part is parsed and divided into said subfields.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID with four sub-fields, where the first sub-field is a 14-bit Region ID, the

second sub-field is a 6-bit Device ID, the third sub-field is three bits reserved for future expansion, and the fourth sub-field is a Path Select (P) bit.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the teachings of O'Neil in view of Chen since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of O'Neil in view of Chen.

**As for Claim 9**, O'Neil in view of Chen and Krause as applied to Claim 6, teach those limitations.

O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs in the request (subfields are separated by a predetermined bit string, character, or character string).

**As for Claim 12**, O'Neil in view of Chen as applied to Claim 2 teach those limitations.

O'Neil fails to teach a port number indicating a port for receiving.

Krause further teaches in line 47, column 63, of a 3-bit target port number, and, in lines 8-9, column 64, of input ports.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the teachings of O'Neil in view of Chen since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of O'Neil in view of Chen.

**As for Claim 13**, O'Neil in view of Chen and Krause as applied to Claims 2 and 12 teach those limitations.

O'Neil fails to teach a second port.

Krause further teaches in lines 8-9, column 64, of two or more input ports.

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the teachings of O'Neil in view of Chen since Krause provides a router processing system that prevents deadlocks and provides fault tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of O'Neil in view of Chen.

**Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Morrow.

**As for Claim 11**, O'Neil as applied to Claim 10 teaches those limitations.

O'Neil fails to teach a processor node has a call state control functionality of an internet based cellular network.

Morrow teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system (a processor node has a call state control functionality of an internet based cellular network).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil to allow compatibility with SIP in load management.

**Claims 14, 17, 18 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Black (Pub. No.: US 2004/0057449 A1), hereafter referred to as Black.

**As for Claim 14**, O'Neil as applied to Claim 1 teaches those limitations.



O'Neil fails to teach load control information comprises a first information indicating whether a session of said message is already existing, and control information is stored in a route header field of a session initiation protocol message.

Black teaches in paragraphs [0117] and [0118], and in FIG. 2, a CD dynamically selects a UDP port on which it intends to listen for group communication media signaling requests and communicates the port number to CM 218 (FIG. 2) as part of the SIP invitation it delivers when attempting to join a group, and a group's CM media signaling destination address (including the UDP port number) is described in the group's session description delivered as part of a successful SIP INVITE request's response (load control information comprises a first information indicating whether a session of said message is already existing, and control information is stored in a route header field of a session initiation protocol message).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Black with the teachings of O'Neil since Black provides a system of connection establishment signaling utilizing port numbers and SIP messages, which can be introduced into the teachings of O'Neil to allow efficient communication establishment utilizing SIP signaling.

**As for Claim 17**, O'Neil teaches in column 4, lines 27-30, URIs that arrive in encrypted requests will be decrypted by the server (load control information is a hidden information not meaningful to other networks).

**As for Claim 18**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs in the request (load control information is set as a part of a host name of a header field, and load control information is set as a parameter of a header field).

**As for Claim 23**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network

DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs in the request (load control information is set in a payload portion of said message).

**Claims 15 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Black, and further in view of Morrow.

**As for Claim 15**, O'Neil as applied to Claim 1 teaches load control information and a session.

O'Neil fails to teach control information comprises a second information indicating an identification of said existing session.

Morrow shows in lines 48-54, column 8, and in FIG. 7, page 14, the NAT can identify the CSCF and the transaction originator if the handshake process has already happened, implicitly teaching that the message contains sufficient information after a handshake process to determine the participants of an established connection (control information comprises a second information indicating an identification of said existing session).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Black since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be

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introduced into the teachings of O'Neil in view of Black to allow compatibility with SIP in load management.

**As for Claim 24**, O'Neil in view of Black and Morrow as applied to Claims 1 and 15 teaches using information for selection of a processing resource.

O'Neil fails to teach extracting second information in response to a detection of first information.

Morrow teaches extracting information in response to detecting information. Morrow further teaches in paragraph [0022], lines 46-48, when an incoming packet is detected with a destination address of C, the NAT looks it up in the route table, implicitly teaching that the NAT can detect the address of C in the incoming packet and extract it for the purposes of comparing it to the route table (extracting second information in response to a detection of first information).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Black since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Black to allow compatibility with SIP in load management.

**Claims 26, 28, 32, 37, 40, 43 and 44** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil et al. (Patent Number: 6,128,279) in view of Sakagawa et al. (Patent No.: US 6,421,321 B1), hereafter respectively referred to as O'Neil and Sakagawa.

**As for Claims 26 and 28**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs (or lack thereof) in the request, and step S402 determines which server(s) are dedicated to processing which URIs, and which server(s) are dedicated to processing requests having no URI, and where the load processing module of each server is configured to accept requests for one or more URIs, thus limiting the server to processing requests for those URIs, for example, load balancing module 17 may be configured to accept requests with a URI of "/banking", whereas load balancing module 19 may be configured to accept requests with a URI of "/securities", and in a case step S403 (FIG. 4) decides that server 17 is

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dedicated to processing URIs of the type contained in the request, flow proceeds to step S404 (FIG. 4), and in step S404 (FIG. 4), the request is accepted by load balancing module 17 and processed in server 7 (FIG. 3), on the other hand, in a case that step S403 decides that server 7 does not process URIs of the type contained in the request, flow proceeds to step S405 (FIG. 4), and this step routes the request to one of server 7's peers that is dedicated to processing requests containing such URIs, and once the request is received at the appropriate server, the load balancing module associated therewith accepts the request for processing by the server in step S406 (FIG. 4) (a checking unit configured to check load control information provided in a predetermined field of a layer three or above message; and a selector configured to select a processing resource for said message in response to said checking unit, and select a predetermined processor node to which said message is distributed).

O'Neil fails to teach control information is provided to at least one network element operating in a packet data network to terminate at least one network hop of said message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a

shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (control information is provided to at least one network element operating in a packet data network to terminate at least one network hop of said message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of O'Neil since Sakagawa provides a method which can transfer packets at high speeds and with high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of O'Neil to allow the selection of paths that provide higher packet transfer speeds in addition to load balancing and enhancing the forwarding capabilities of the system of O'Neil.

**As for Claim 32**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing

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module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs (or lack thereof) in the request, and step S402 determines which server(s) are dedicated to processing which URIs, and which server(s) are dedicated to processing requests having no URI, and where the load processing module of each server is configured to accept requests for one or more URIs, thus limiting the server to processing requests for those URIs, for example, load balancing module 17 may be configured to accept requests with a URI of "/banking", whereas load balancing module 19 may be configured to accept requests with a URI of "/securities", and in a case step S403 (FIG. 4) decides that server 17 is dedicated to processing URIs of the type contained in the request, flow proceeds to step S404 (FIG. 4), and in step S404 (FIG. 4), the request is accepted by load balancing module 17 and processed in server 7 (FIG. 3), on the other hand, in a case that step S403 decides that server 7 does not process URIs of the type contained in the request, flow proceeds to step S405 (FIG. 4), and this step routes the request to one of server 7's peers that is dedicated to processing requests containing such URIs, and once the request is received at the appropriate server, the load balancing module associated therewith accepts the request for processing by the server in step S406 (FIG. 4) (a transmitter configured to transmit a layer three of above message to a packet data network, wherein said apparatus is configured to set into a predetermined field of said message a load control information to select processing resources of said packet data network).



O'Neil fails to teach control information is provided to at least one network element operating in a packet data network to terminate one network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (control information is provided to at least one network element operating in a packet data network to terminate one network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of O'Neil since Sakagawa provides a method which can transfer packets at high speeds and with high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of O'Neil to allow the selection of paths that provide higher packet transfer speeds in addition to load balancing and enhancing the forwarding capabilities of the system of O'Neil.

**As for Claim 37**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs in the request (set load control information in a payload portion of a message).

**As for Claim 40**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing

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module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs (or lack thereof) in the request, and step S402 determines which server(s) are dedicated to processing which URIs, and which server(s) are dedicated to processing requests having no URI, and where the load processing module of each server is configured to accept requests for one or more URIs, thus limiting the server to processing requests for those URIs, for example, load balancing module 17 may be configured to accept requests with a URI of "/banking", whereas load balancing module 19 may be configured to accept requests with a URI of "/securities", and in a case step S403 (FIG. 4) decides that server 17 is dedicated to processing URIs of the type contained in the request, flow proceeds to step S404 (FIG. 4), and in step S404 (FIG. 4), the request is accepted by load balancing module 17 and processed in server 7 (FIG. 3), on the other hand, in a case that step S403 decides that server 7 does not process URIs of the type contained in the request, flow proceeds to step S405 (FIG. 4), and this step routes the request to one of server 7's peers that is dedicated to processing requests containing such URIs, and once the request is received at the appropriate server, the load balancing module associated therewith accepts the request for processing by the server in step S406 (FIG. 4) (a first network element configured to set a load control information in a predetermined field of a layer three or above message to be routed in said packet data network; and a second network element configured to check said load control information on the routing path of said message, and configured to select a processing resource of said packet data network in response to the result of said checking of the load control information).

O'Neil fails to teach control information is provided to one network element operating in a packet data network to terminate one network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (control information is provided to at least one network element operating in a packet data network to terminate one network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of O'Neil since Sakagawa provides a method which can transfer packets at high speeds and with high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of O'Neil to allow the selection of paths that provide higher packet transfer speeds in addition to load balancing and enhancing the forwarding capabilities of the system of O'Neil.

**As for Claim 43**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs (or lack thereof) in the request, and step S402 determines which server(s) are dedicated to processing which URIs, and which server(s) are dedicated to processing requests having no URI, and where the load processing module of each server is configured to accept requests for one or more URIs, thus limiting the server to processing requests for those URIs, for example, load balancing module 17 may be configured to accept requests with a URI of "/banking", whereas load balancing module 19 may be configured to accept requests with a URI of "/securities", and in a case step S403 (FIG. 4) decides that server 17 is dedicated to processing URIs of the type contained in the request, flow proceeds to step S404 (FIG. 4), and in step S404 (FIG. 4), the request is accepted by load balancing module 17 and processed in server 7 (FIG. 3), on the other hand, in a case that step S403 decides that server 7 does not process URIs of the type contained in the request,

flow proceeds to step S405 (FIG. 4), and this step routes the request to one of server 7's peers that is dedicated to processing requests containing such URIs, and once the request is received at the appropriate server, the load balancing module associated therewith accepts the request for processing by the server in step S406 (FIG. 4) (checking means for checking load control information provided in a predetermined field of a layer three or above message; and selecting means for selecting a processing resource for said message in response to said checking means).

O'Neil fails to teach control information is provided to one network element operating in a packet data network to terminate one network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (control information is provided to at least one network element operating in a packet data network to terminate one network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of O'Neil since

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Sakagawa provides a method which can transfer packets at high speeds and with high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of O'Neil to allow the selection of paths that provide higher packet transfer speeds in addition to load balancing and enhancing the forwarding capabilities of the system of O'Neil.

**As for Claim 44**, O'Neil teaches in column 4, lines 1-9 and 22-36, and in column 7, line 57 to column 8, line 37, and in FIGS. 3 and 4, load balancing is performed based on a content of a network request, in this case a URL/URI, where a URI specifies information of interest at a Web site addressed by a URL, for example, in a request such as "www.foo.com/banking", "/banking" is the URI and indicates that the request is directed to information at the "foo" Web site that relates to "banking", and URIs in network requests are used to distribute requests among servers, and in a step S401 (FIG. 4), a load balancing module 17 (FIG. 3) receives a request from either network DNS 21 or from local DNS 4 (see FIG. 3), and in step S402 (FIG. 4), the load balancing module then analyzes the request to determine its content, and in particular, load balancing module 17 analyzes the request to identify URIs (or lack thereof) in the request, and step S402 determines which server(s) are dedicated to processing which URIs, and which server(s) are dedicated to processing requests having no URI, and where the load processing module of each server is configured to accept requests for one or more URIs, thus limiting the server to processing requests for those URIs, for

example, load balancing module 17 may be configured to accept requests with a URI of "/banking", whereas load balancing module 19 may be configured to accept requests with a URI of "/securities", and in a case step S403 (FIG. 4) decides that server 17 is dedicated to processing URIs of the type contained in the request, flow proceeds to step S404 (FIG. 4), and in step S404 (FIG. 4), the request is accepted by load balancing module 17 and processed in server 7 (FIG. 3), on the other hand, in a case that step S403 decides that server 7 does not process URIs of the type contained in the request, flow proceeds to step S405 (FIG. 4), and this step routes the request to one of server 7's peers that is dedicated to processing requests containing such URIs, and once the request is received at the appropriate server, the load balancing module associated therewith accepts the request for processing by the server in step S406 (FIG. 4) (setting a load control information in a predetermined field of a layer three or above message; routing said message in said packet data network; checking said load control information on the routing path of said message; and selecting a processing resource of said packet data network in response to the result of said checking of said load control information).

O'Neil fails to teach control information is provided to one network element operating in a packet data network to terminate one network hop of a message.

Sakagawa teaches in column 9, lines 2-11, and in FIG. 3 and FIG. 4, that, if preferable, terminal A sends an SP Request message to the destination through a default route (S8, FIG. 4), and the message is sent to terminal B through the default route (S9, S10, FIG. 4) in the same way as a first packet, and when terminal B



recognizes that the message is addressed thereto, it requests a network to set a shortcut path (S11, S12, FIG. 4), and the network sets a shortcut path between ingress system terminal A and egress system terminal B (S13, S14, FIG. 4), and once a shortcut path is set, the following packets are forwarded between the ingress system and the egress system through the shortcut path (S15, S16, FIG. 4) (control information is provided to at least one network element operating in a packet data network to terminate one network hop of a message).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Sakagawa with the invention of O'Neil since Sakagawa provides a method which can transfer packets at high speeds and with high-efficiency and that provides a packet transferring method which is economical and highly reliable, particularly in terms of security (see Sakagawa, column 6, lines 12-17), which can be introduced into the system of O'Neil to allow the selection of paths that provide higher packet transfer speeds in addition to load balancing and enhancing the forwarding capabilities of the system of O'Neil.

**Claims 27, 29-31, 33, 34 and 42** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Sakagawa, and further in view of Morrow.

**As for Claims 27**, O'Neil in view of Sakagawa as applied to Claim 26 teach those limitations.

O'Neil fails to teach a call state control functionality of an internet based cellular network.

Morrow teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system (a call state control functionality of an internet based cellular network).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Sakagawa since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Sakagawa to allow compatibility with SIP in load management.

**As for Claims 29 and 30**, O'Neil in view of Sakagawa as applied to Claim 26 teaches load control information.

O'Neil fails to teach a selector is configured to initiate creation of a new session, and control information comprises a first information indicating whether a session of said message is already existing.

Morrow shows in lines 41-54, column 8, and in FIG. 7, page 14, that a message is checked by the NAT to determine if the message is the first message of a transaction yet to be established by the NAT or a message of an already established transaction, implicitly teaching that the message contains sufficient information to determine this (a selector is configured to initiate creation of a new session, and control information

comprises a first information indicating whether a session of said message is already existing).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Sakagawa since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Sakagawa to allow compatibility with SIP in load management.

**As for Claim 31**, O'Neil in view of Sakagawa and Morrow as applied to Claim 30 teaches load control information and a session.

O'Neil fails to teach control information comprises a second information for identifying said existing session.

Morrow shows in lines 48-54, column 8, and in FIG. 7, page 14, the NAT can identify the CSCF and the transaction originator if the handshake process has already happened, implicitly teaching that the message contains sufficient information after a handshake process to determine the participants of an established connection (control information comprises a second information for identifying said existing session).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Sakagawa since Morrow provides a method using SIP for enhancing system performance of a modern

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communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Sakagawa to allow compatibility with SIP in load management.

**As for Claim 33**, O'Neil in view of Sakagawa as applied to Claim 32 teach those limitations.

O'Neil fails to teach a call state control functionality of an internet based cellular network.

Morrow teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system (a call state control functionality of an internet based cellular network).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Sakagawa since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Sakagawa to allow compatibility with SIP in load management.

**As for Claim 34**, O'Neil in view of Sakagawa as applied to Claim 32 teach those limitations.

O'Neil fails to teach a call state control functionality is a serving call state control functionality or a proxy call state control functionality.

Morrow teaches in paragraph [0016], lines 47-54, call session control functions (CSCFs) (a call state control functionality is a serving call state control functionality or a proxy call state control functionality).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Sakagawa since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Sakagawa to allow compatibility with SIP in load management.

**As for Claims 42**, O'Neil in view of Sakagawa as applied to Claim 40 teach those limitations.

O'Neil fails to teach a call state control functionality.

Morrow teaches in paragraph [0016], lines 47-52, of a processor containing multiple call session control functions (CSCF), and, in paragraph [0018], lines 31-33, 37-38, and 43-51, of CSCFs operating in a connectionless network protocol involving a cellular system (a call state control functionality).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Sakagawa since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Sakagawa to allow compatibility with SIP in load management.

**Claim 35** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Sakagawa, and further in view of Krause.

**As for Claim 35**, O'Neil in view of Sakagawa as applied to Claim 32 teach those limitations.

O'Neil fails to teach an apparatus is configured to set said load control information in a user part of a header address of said message.

Krause shows in lines 15-25 and 36-40, column 17, and lines 52-63, column 58, and in FIG. 21A, Sheet 18 of 30, of a message packet header field containing a destination ID that contains four sub-fields, and where each sub-field is designed to carry a different type of information (an apparatus is configured to set said load control information in a user part of a header address of said message).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Krause with the teachings of O'Neil in view of Sakagawa since Krause provides a router processing system that prevents deadlocks and provides fault

tolerance, hardware redundancy, and software recovery techniques, enhancing the robustness of the system of O'Neil in view of Sakagawa.

**Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Sakagawa, Krause, and further in view of Orton.

**As for Claim 36**, O'Neil in view of Sakagawa as applied to Claim 32 teach those limitations.

O'Neil fails to teach URI of a SIP Route header.

Orton teaches in lines 14-15, column 10, Route headers, and, lines 24-25 and 42-44, column 11, and in FIG. 14, Sheet 8 of 8, of SIP message containing Uniform Resource Identifier (URI).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Orton with the teachings of O'Neil in view of Sakagawa and Krause since Orton provides a method and apparatus that allows efficient operation of SIP by processing application non-essential information, such as routing information, in such a way that an application program is not detracted from its essential task, allowing the system elements of O'Neil in view of Sakagawa and Krause to connect to SIP without their application programs being overburdened.

**Claim 38** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Sakagawa, and further in view of Black (Pub. No.: US 2004/0057449 A1), hereafter referred to as Black.

**As for Claim 38**, O'Neil in view of Sakagawa as applied to Claim 32 teach those limitations.

O'Neil fails to teach information indicating whether a session of said message is already existing.

Black teaches in paragraphs [0117] and [0118], and in FIG. 2, a CD dynamically selects a UDP port on which it intends to listen for group communication media signaling requests and communicates the port number to CM 218 (FIG. 2) as part of the SIP invitation it delivers when attempting to join a group, and a group's CM media signaling destination address (including the UDP port number) is described in the group's session description delivered as part of a successful SIP INVITE request's response (information indicating whether a session of said message is already existing).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Black with the teachings of O'Neil in view of Sakagawa since Black provides a system of connection establishment signaling utilizing port numbers and SIP messages, which can be introduced into the teachings of O'Neil in view of Sakagawa to allow efficient communication establishment utilizing SIP signaling.

**Claim 39** is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neil in view of Sakagawa, Black, and further in view of Morrow.

**As for Claim 39**, O'Neil in view of Sakagawa as applied to Claim 32 teaches load control information and a session.



O'Neil fails to teach control information comprises a second information indicating an existing session.

Morrow shows in lines 48-54, column 8, and in FIG. 7, page 14, the NAT can identify the CSCF and the transaction originator if the handshake process has already happened, implicitly teaching that the message contains sufficient information after a handshake process to determine the participants of an established connection (control information comprises a second information indicating an existing session).

It would have been obvious to one skilled in the art at the time of the invention to combine the invention of Morrow with the teachings of O'Neil in view of Sakagawa and Black since Morrow provides a method using SIP for enhancing system performance of a modern communications network system by implementing a more efficient and economical call control processing scheme (see Morrow, paragraphs [0009] and [0010]), which can be introduced into the teachings of O'Neil in view of Sakagawa and Black to allow compatibility with SIP in load management.

### ***Response to Arguments***

#### **I. Arguments for Claim Rejection under 35 USC § 101.**

Applicant's arguments, see pages 11-12, filed 01/11/2011, with respect to the Claim Rejection under 35 USC § 101 have been fully considered and are persuasive. The Claim Rejection under 35 USC § 101 has been withdrawn.

#### **II. Arguments for Claim Rejections under 35 USC § 103.**

Applicant's arguments filed 01/11/2011 have been fully considered but they are not persuasive. The argument that ***the Examiner alleges that O'Neil at column 4, lines 1-9, 22-36, col. 57, line 57- column 8, line 37, and FIGs. 1 and 3. Applicants disagree and submit that a careful scrutiny reveals that O'Neil does not disclose what the Examiner alleges. Instead, O'Neil discloses the use of a uniform resource locator to limit processing by a server to a given "type." O'Neil at column 4, line 5. In any case, the URI is not used in connection with load control,*** is not persuasive. The O'Neil reference teaches in column 7, lines 57-59 : "In the second embodiment of the invention, load balancing is performed based on a content of a network request, in this case a URL/URI." The term ***load balancing*** is substantively the same as "load control" of the claims, and since load balancing is performed based on a URL/URI, the URL/URI of O'Neil effectively is load balancing information, and load balancing information is substantively the same as "load control information" of the claims. As a result, the URI of O'Neil is used in connection with load balancing, which is substantively that same as load control.

The argument that ***the URI is not used in connection with load control. Nor is the URI or the corresponding message checked for load control information,*** is not persuasive. O'Neil teaches in column 8, lines 4-8, and in FIGS. 1, 3 and 4: "In step S402, the load balancing module then **analyzes the request** to determine its content. In particular, load balancing module 17 **analyzes** the request **to identify URIs** (or lack thereof) in the request" (emphasis added by the examiner). The act of a load balancing module analyzing a request to identify URIs is substantively the same as a ***message***

**checked for load control information**, since, as presented above, the URL/URI of O'Neil is substantively the same as "load control information".

The argument that ***Rather than check the URI or the corresponding message, O'Neil instead directly checks the server to see what load is currently being handled by the server***, is not persuasive. As presented above, the O'Neil reference explicitly teaches that a URL/URI is utilized to perform load balancing, and a load balancing module analyzes a request to identify URIs. Although the Specification of the Application may disclose a load control arrangement and process that may not taught by the combinations of references applied in the claim rejections, the claims do not clearly claim such an arrangement and process that is clearly not taught by the combinations of references.

The argument that ***Because O'Neil merely discloses URIs and Sakagawa merely discloses a shortcut path message, neither O'Neil nor Sakagawa discloses "predetermined field is a subfield of a user part of said message," "load control information," much less the noted features expressly recited in amended claim 2,*** is not persuasive. As presented above, the URL/URI of O'Neil is substantively the same as "load control information". A URL/URI of a request is also substantively the same as a "user part", since website requests originate from the actions of users. A URI is part of a URL/URI, and a URI can therefore be interpreted as a ***subfield*** of the URL/URI. As a result, a URI is substantively the same as a ***predetermined field that is a subfield of a user part of a message***.

The argument, in regard to Claim 6, that ***Krause merely discloses a header including, for example, a destination ID, not a "user part" much less "load control information"***, is not persuasive. As presented above, the O'Neil reference teaches "load control information" and a "user part".

The argument, in regard to Claim 6, that ***Moreover, the Krause header is clearly part of the address, so the Examiner has committed a clear error by improperly ignoring that claim 1 (from which claim 6 depends) recites that the "wherein the load control information is separate from addressing information for said message."*** As presented above, a URL/URI of O'Neil is substantively the same as "load control information". A URL/URI is different from a network address used to route a request across the Internet, and is different from an IP address. As a result, a URL/URI of O'Neil is substantively as ***load control information that is separate from addressing information for a message***. The Krause reference is applied only to teach a process that divides values in a packet into subfields for respective computational purposes. Neither the O'Neil reference nor the Krause reference teaches anything that prevents the Krause reference from modifying the O'Neil reference in such a manner.

### ***Conclusion***

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA SMITH whose telephone number is 571-270-1826. The examiner can normally be reached on Monday-Friday, 10:30am-7pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2477

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Joshua Smith  
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03-22-2011

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